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| New Balco Logo (003) | | | **ESL STEEL LIMITED**  **( A Group Company of Vedanta Limited )**  **STANDARD MAINTENANCE PROCEDURE** | | | |  | |
| **SOPNAME**: **SMP OF MCC MOTOR FEEDER** | | | | | | | | |
| **SOP NO :ESL/COP-ELE/SMP/001** | | | | | | | | |
| REVISION NO : 00 | | | | | REVISION DATE :**18.01.2023** | | | VERSION NO:00 |
| DEPARTMENT : Coke Oven | | | | | SECTION : Electrical | | | |
| STANDARDS | ISO : 9001 | ISO : 14001 | | ISO : 45001 | ISO 27001 | ISO : 50001 | | ISO : 55001 |
| CLAUSE NAME: | OPERATIONAL  PLANNING & CONTROL | OPERATIONAL  PLANNING & CONTROL | | OPERATIONAL CONTROL | OPERATIONAL PLANNING & CONTROL | OPERATIONAL CONTROL | | OPERATIONAL  PLANNING & CONTROL |
| CLAUSE NO. | 8.1 | 8.1 | | 8.1 | 8.1 | 4.4.6 | | 8.1 |
| **MR OFFICE USE ONLY**  **FORMAT NO. – F-ESL/IMS/033FORMAT REVISION NO.: 00 FORMAT VERSION NO.: 00 FORMAT DATE : 01.11.2022** | | | | | | | | |
| ANY OTHER REFERENCES – | | | | | | | | |

1. **SCOPE:**FOR PREVENTIVE MAINTENANCE OF COAL MCC, COKE MCC, COKE DEDUSTING MCC, SJ 9A MCC
2. **OBJECTIVES/PURPOSE:**TO ENSURE PROPER MAINTENANCE OF LT MCC MOTOR FEEDER - 415V IN COKE OVEN

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| 3.REQUIRED COMPETENCIES | KNOWLEDGE OF MAINTENANCE | Checking tightness of cables and feeder housekeeping |
| KNOWLEDGE OF EnMS  (Energy Magt. System) | Energy efficient operation of process/ activity |
| KNOWLEDGE OF AMS  (Asset Management System) | Healthiness of working tools and equipments |
| KNOWLEDGE OF HSE  (Health, Safety, Environment) | Knowledge on equipment protection |

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| 4.INPUTS | REFERENCES | PPE | OUTPUT | EFFICIENCY | EFFECTIVENESS | REVIEW |
| * Phone call * Logbook * Notification | * Feeder checklist * Logbook * Electrical diagram | * Safety shoes * Safety helmet * Goggles * Ear plug * Safety belt(while operation at height) * Electrical Gloves. * LT/HT arc suit. | * Constant power supply to motor | * Ontime rectification of problem * No harm to people / equipment * Completion as per schedule in shift basis | * No abnormalities after maintenance | * Monthly review by Shift In Charges & approved by HOD |

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| Description: helmet  SAFETY HELMET | Description: goggle  SAFETY GOGGLE | Description: face shield  FACE SHIELD | Description: GLOVES  SAFETY GLOVES | Description: afety shoe  SAFETY SHOES | Description: leg guard  LEG GUARD | Description: mask  SAFETY MASK | Description: safety cloth  METAL SPLASH SUITE | apron  APRON | balaclava  BALACLAVA | FR Suit |
| 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje | 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje | 🗶 | 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje | 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje | 🗶 | 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje | 🗶 | 🗶 | 🗶 | 240_F_159559077_QeuBsFPVuMYzcrjCpAd7amkLrqC1Ogje |

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| 5. RESPONSIBILITY MATRIX: | | |
| S.NO | JOB | RESPONSIBILITY |
| 1. | Providing Filed MCC motor feeder CBM report and checklist | Area in-charge |
| 2. | Verification of MCC motor feeder checklist | Shift in-charge |
| 3. | Feeder area visit | Shift in-charge |

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| 6. DISTRIBUTION LIST: | | | | | | | |
| SOP | SOP No. | REFERENCES | REV. No | VERSION No. | No.OFPAGES | No OF COPIES DISTRIBUTED | PLACES WHERE DISTRIBUTED |
| SMP OF MCC MOTOR FEEDER | ESL/COP-ELE/SMP/001 |  | 00 | -- | 6 |  |  |

7. PROCEDURE:

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| Sl.No. | ACTIVITY(OPERATIONAL UNIT HAS TO COVER PRE STARTUP/ ON STARTUP PROCESS SEPARATELY) | REFERENCES  (Doc No. / Pics – | RESPONSIBILITY | HSE AND QUALITY CONSIDERATIONS |
| 1. | Review electrical task requirements from issued work order and complete work order risk assessment along with PTW. |  | Concerned Engineer | Risks must always be assessed while planning the job. |
| 2. | Conduct a visual inspection of work area. |  | Concerned Engineer | • Adequate lighting  • Safe access and egress  • Locate all switchboard isolation points and apply tags to all points.  • Carry out visual inspection of the switchboard cubicles and panels to see if they are safe to open  • Safe access and egress to the equipment being worked on before starting any work, fix or remedy any access or lighting issues. |
| 3. | All equipment and PPE must be assembled and checked before use. |  | Concerned Engineer | Checking of PPE and equipments should never be skipped. |
| 4. | Switch off the MCC incomer breaker |  | Concerned Engineer | Corresponding incomer breaker should always be switched off. |
| 5. | Draw out the LT Incomer breaker by Rack in-out handle.( Put the breaker rack in-out handle and move in Anti-clockwise direction, gradually it will come in test position.) |  | Concerned Engineer | Breaker must be rack-out before working. |
| 6. | Checking of Incoming & outgoing side power cable Tightness and condition of Cable lugs. |  | Technicians | Cable should be tight and lugs should not be damaged. |
| 7. | Checking all MCCB, Power contactor, Control contactor, Relay, MCB and Change over switch. |  | Technicians | All protection devices must be checked for safety purposes. |
| 8. | Cleaning and Tightening of Incoming & outgoing side power cable, control cable & feeder Switchgears. |  | Technicians | Cable should be tight and lugs should not be damaged. |
| 9. | Checking of all Panel door & Door Lock (Visually check all Panel door & door lock). |  | Technicians | Panel doors at the front and back should always remain locked to avoid accidents. |
| 10. | Checking and Tightening of all Control cables at Terminal blocks, Control breakers, switches/selector switches, Push button and Protection relays. |  | Technicians | All protection devices must be checked for safety purposes. |
| 11. | When the work is complete - make area safe & return to service after clearing the work permit.Replace or close switchboard panels, remove equipment, tools, PPE and re-lock switch room or board. |  | Concerned Engineer | Restoration of power after making the area safe and secure. |

8. OPERATIONAL ACTIVITY WITH CONTROLS

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| Sl. No. | ACTIVITY | FIRST CONTROL | SECOND CONTROL |
| 1. | Routine maintenance of MCC motor feeder | 1. Complete isolation of equipment | 1. Ensuring proper work permit 2. Use of barrication and sign boards. 3. Use proper PPEs ( Safety helmet, goggles, safety shoe, mask, ear plug) |

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| 9. QMS, OH&S, EMS, AMS, EnMS, ISOLATION Considerations (Details of Aspects & Risks to be mentioned in an annexure) | 9.1 QMS CONSIDERATION ( Linkage with QMS Risk Register & Opportunities):   * Use of ISO certified/ standard tools. * Proper trainings to be provided to the concerned people. |
| 9.2 OH&S CONSIDERATION (HIRADEC No. to be linked):   * The work area and isolation point is clear of obstructions and able to be accessed safely. * The work area physically, to assess if the lighting is adequate. * All testing equipment and Insulated mats prior to use for blisters, cracks cuts, holes, embedded foreign matter. * Without testing a circuit don’t assume that it is dead. * Without knowledge of job, do not carry out anything, wait for competent authority to certify the circuit. * Insulating gloves prior to use for signs of damage and or deterioration. * Insulated hand tools prior to use for any signs of damage or deterioration. * Do not touch anything without electric gloves. * Ensure rubber mat or rubber boots is present beneath the person. * Do not go for any shortcut, follow the procedure strictly. * Remove metallic jewelry, body piercing or other conductive materials while carrying out electrical testing work. * Shirt - sleeves down, collar up and buttons done up. |
| 9.3 EMS CONSIDERATION (Aspect No. to be linked):   * No environmental controls necessary. |
| 9.4 EnMS CONSIDERATION:   * Energy efficient operation of process/ activity to be ensured. * Idle running of equipments to be identified. |
| 9.5 AMS CONSIDERATION:   * Use of proper tools to avoid damage to equipments. * Use of calibrated testing equipments. |
| 9.6 ISOLATION CONSIDERATIONS ( Refer to Isolation SOP / Annexure, line item no. to be mentioned):   * Wear safety shoes and safety helmet. * Wear safety gloves while working. * Wear safety belts while working at heights. * Discharge the equipment with discharge rod before starting any work. |
| 9.7 PRECAUTIONS:   * Minimum 2 people (one superior and one operator) need to be present during the operation. Data record sheet should be used to record data before, during and after the process. * Equipment is not allowed to be operated without protection. * Any problem occurring must be immediately reported to the team leader and HOD. * Work permit should be used for executing the task of switchover operation. * For operation on high voltage equipments, the operator should wear insulated boots. * Equipment must be charged on no load. * Logbook must be written in ink and no alteration is to be permitted. |

10. AMENDMENT HISTORY

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| REVISION NO. | DATE OF REVISION | PAGES | BRIEF OF CHANGES |
| 00 | 18.01.2023 | 01 to XX | Format changed |

Note:- In case of statement addition or deletion revision history no will be changed in incremental orderand in case of no change the revision no remains same. Document date must be updated on header part & in last line item of revision history.

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| APPROVAL SIGNATURES RECORD | | | | |
| REVIEWER | POSITION | NAME | SIGNATURE | DATE |
| Prepared By |  |  |  |  |
| Reviewed By |  |  |  |  |
| Approved By: |  |  |  |  |

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